

IN THE CLAIMS:

1. (original) A higher-order moment-based image projection method comprising: when projecting three-dimensional data onto a projection plane, determining a pixel value at a point of intersection of a projection axis and the projection plane based on:

$$P = \left| \left(\sum_{i=1}^n V_i / n \right)^r - \sum_{i=1}^n (V_i / n)^r \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by n , a data value is denoted by V_i , and a real number greater than one is denoted by r .

2. (original) The higher-order moment-based image projection method of claim 1, wherein $2 \leq r \leq 128$.

3. (original) The higher-order moment-based image projection method of claim 1, wherein an operator is allowed to change r .

4. (original) An image processing apparatus comprising: three-dimensional data storage means for storing three-dimensional data; projection direction specifying means for use by an operator to specify a projection direction; higher-order moment-based image projection means for determining a pixel value at a point of intersection of a projection axis and a projection plane based on:

$$P = \left| \left(\sum_{i=1}^n V_i / n \right)^r - \sum_{i=1}^n (V_i / n)^r \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by n , a data value is denoted by V_i , and a real number greater than one is denoted by r ; and projection image display means for displaying a projection image.

5. (original) An image processing apparatus comprising: three-dimensional data storage means for storing three-dimensional data; projection direction specifying means for use by an operator to specify a projection direction; higher-order moment-based image projection means for determining a pixel value G at a point of intersection of a projection axis and a projection plane as:

$$G = \left| \left(\sum_{i=1}^n V_i / n \right)^r - \sum_{i=1}^n (V_i / n)^r \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by n , a data value is denoted by V_i , and a real number greater than one is denoted by r ; and projection image display means for displaying a projection image.

6. (currently amended) The image processing apparatus of claim 4 or claim 5, wherein $2 \leq r \leq 128$.

7. (currently amended) The image processing apparatus of claim 4 or claim 5, further comprising: order specifying means for use by the operator to specify r .

8. (newly added) The image processing apparatus of claim 5, wherein $2 \leq r \leq 128$.

9. (newly added) The image processing apparatus of claim 5, further comprising: order specifying means for use by the operator to specify r .

10. (newly added) A higher-order moment-based image projection method comprising: when projecting three-dimensional data onto a projection plane, determining a pixel value at a point of intersection of a projection axis and the projection plane based on:

$$P = \exp \left| \left(\sum_{i=1}^n V_i / n \right)^r - \sum_{i=1}^n (V_i / n)^r \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by n , a data value is denoted by V_i , and a real number greater than one is denoted by r .

11. (newly added) A higher-order moment-based image projection method comprising: when projecting three-dimensional data onto a projection plane, determining a pixel value at a point of intersection of a projection axis and the projection plane based on:

$$P = \left| \left(\sum_{i=1}^n V_i / n \right)^r - \sum_{i=1}^n (V_i^r / n) \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by n , a data value is denoted by V_i , and a real number greater than one is denoted by r .

12. (newly added) A higher-order moment-based image projection method comprising: when projecting three-dimensional data onto a projection plane, determining a pixel value at a point of intersection of a projection axis and the projection plane based on:

$$P = \exp \left| \left(\sum_{i=1}^n V_i / n \right)^r - \sum_{i=1}^n (V_i^r / n) \right|^{1/r},$$

where the number of three-dimensional data values along said projection axis is denoted by n , a data value is denoted by V_i , and a real number greater than one is denoted by r .